

Carson Road Woods Biological Inventory

Washington Crossing Audubon Society

March, 2003



Carson Road Woods Biological Inventory Report

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Introduction

In late 2001, Washington Crossing Audubon Society (WCAS) was asked by Patricia Sayles on behalf of the Friends of Carson Road Woods to conduct a biological inventory of the Carson Road Woods property and to make recommendations for its management, based on information gathered in the inventory. On December 5, 2001 WCAS board members Hannah Suthers, Eileen Katz, Tom Cosmas and Herb Lord attended a Friends of Carson Road Woods meeting and agreed that WCAS would conduct the study over the next year and provide a report near the beginning of 2003. The following sections provide a description of the property, a description of how the inventory was conducted, summaries of the results, and our recommendations for management of the property.

General Description of the Property

Carson Road Woods is located in the northern part of Lawrence Township, Mercer County. It is an irregularly shaped area of about 184 acres bounded on the south and a portion of its western boundary by Carson Road, and along a portion of the northern boundary by Belleview Terrace. The western boundary is roughly an eighth of a mile east of Carter Road, and the eastern boundary a similar distance west of Province Line Road. Figure 1 is a location map.

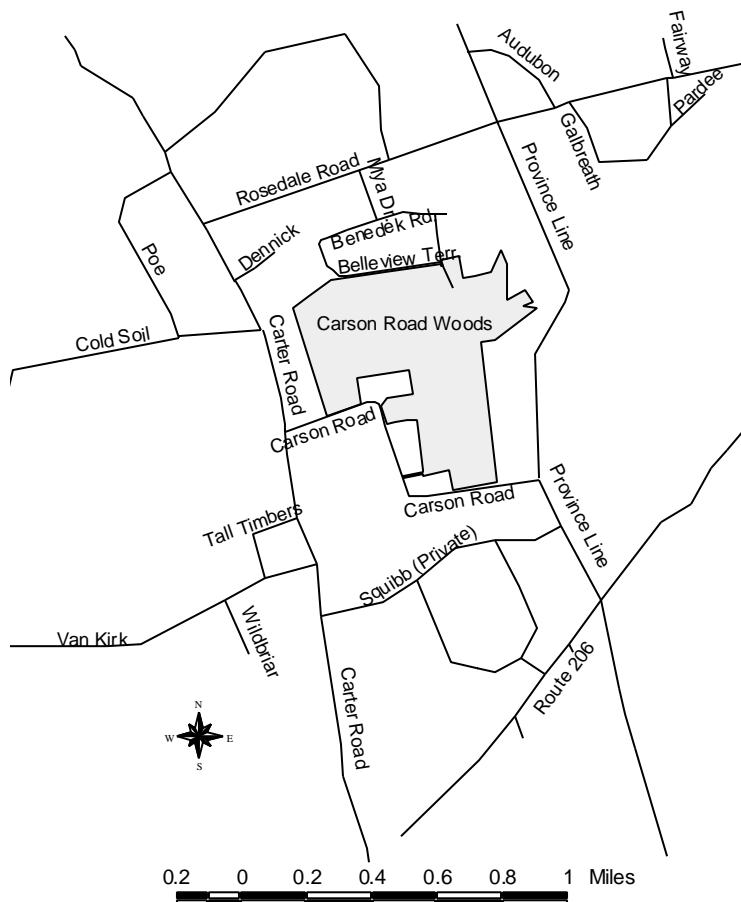


Figure 1. Carson Road Woods location map.

Figure 2, a reproduction of a portion of an infrared digital ortho-quarterquad image adapted by NJDEP from the 1995-1997 National Air Photography Program photos of the state, provides a bird's eye view of the site. About 70 acres of the property are wooded, and about 110 acres are recently farmed fields and an orchard. During most of the study period, the fields in the northern portion of the property were grasslands that apparently had been mowed within the last year or so but had not been planted. The rest of the fields were corn stubble. Hedgerows separate fields, and about ten acres of the fields are agricultural wetlands. Slightly more than half of the wooded area is classified as deciduous wooded wetland, and the rest as (upland) deciduous forest. There is a retention basin at the northern boundary of the site, and there are two private residences that are almost surrounded by the property. The woods in the northeastern portion of the property contain good stands of American beech trees. Several small intermittent streams run through the wooded parts of the property, but most were dry during the study period. In fact all of the wetlands, wooded and agricultural were dry nearly all of the time during the drought-plagued study period.



Figure 2. Infrared digital image of Carson Road Woods.

The property falls within the Piedmont physiographic region, near its border with the inner coastal plain. The topography is nearly flat, with the elevation varying from about 200 feet at the southern border to about 160 feet in the northeast. The bedrock geology falls entirely within the Lockatong Formation; the lithology is described as dolomitic or silty argillite, mudstone, sandstone, siltstone, and minor silty limestone.

Geographic Information System Land-Use/Land-Cover Map

The New Jersey Department of Environmental Protection has made Geographic Information System (GIS) data available to the public through a series of CD-ROMs. Some of the street locations in Figure 1 of this report, and the digital image in Figure 2, are examples of this data. Figure 3 illustrates another form of the NJDEP GIS data, a land-use/land-cover map of the Carson Road Woods property. Land-use/land-cover maps were developed from digital imagery; analysis of the digital images by DEP analysts permitted each area of the map to be classified based on its apparent use or vegetation cover.

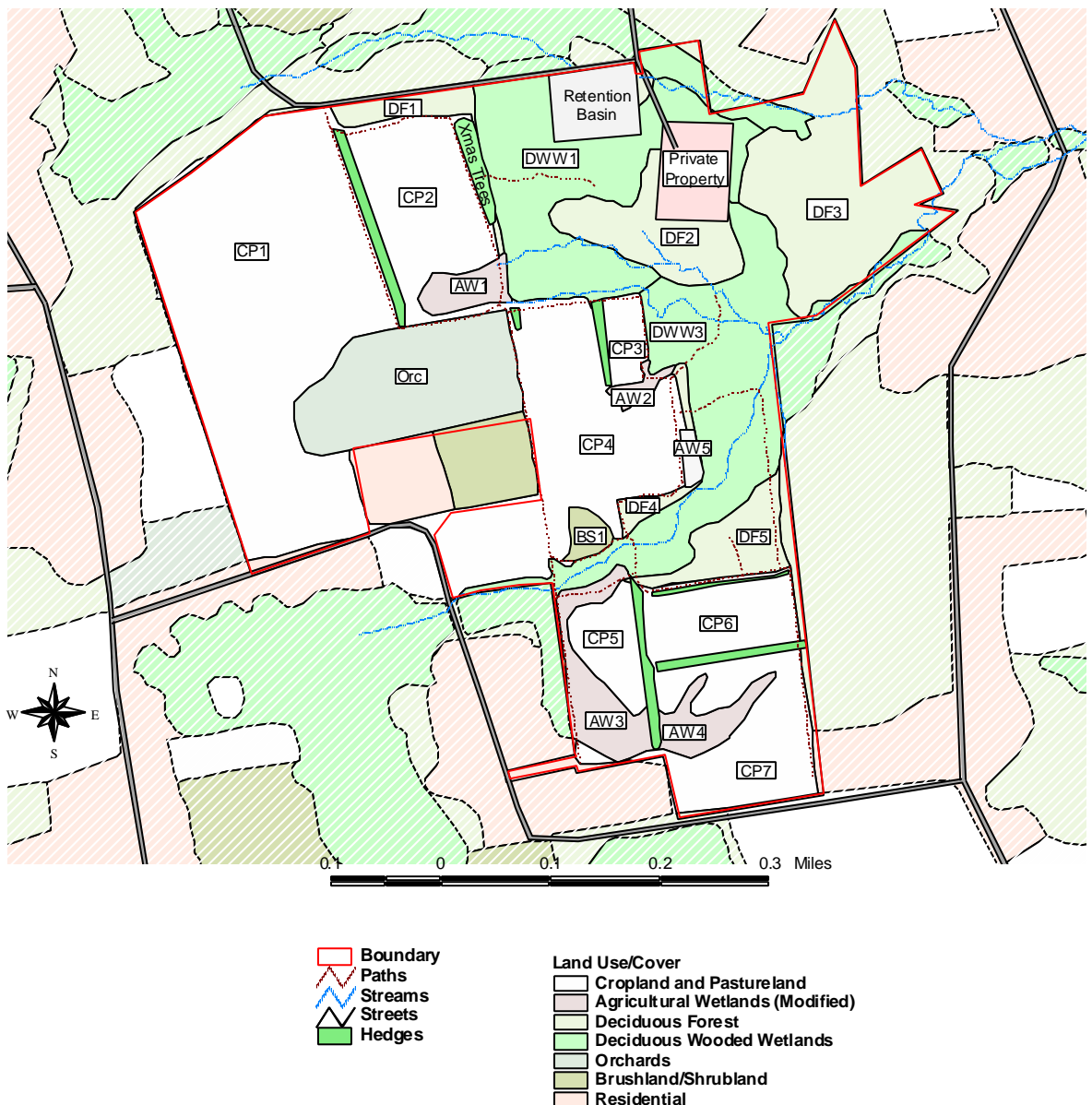


Figure 3. Land-Use / Land-Cover map of Carson Road Woods.

In our surveys of Carson Road Woods, we took advantage of the land-use/land-cover classification data, in combination with some obvious dividers such as hedgerows, to divide up the property into about 30 habitat patches, each with a unique designator. The patches varied in size from less than an acre to nearly forty acres, but each patch was reasonably uniform habitat. Locations of observations were specified by the habitat patch designations. Each field and forest area has a designation – see Figure 3 for details. Hedgerows were not included in the land-use/land-cover data, and were not named, but observations in hedgerows were specified by descriptions such as “CP1-CP2 hedgerow.”

Agricultural lands classifications that were used for Carson Road Woods are:

- Cropland and Pastureland (designated as CPx);
- Agricultural Wetlands (designated as AWx)
- Orchards (designated as Orc)

At Carson Road Woods, the Cropland and Pastureland classification included only cropland, the Agricultural Wetlands were simply wet cropland areas, and the Orchard consisted of (mostly dead) remnants of a peach orchard. In the fall of 2002, during the last part of the study period, all of the fields and agricultural wetlands were plowed and planted with winter wheat. Plowing, accompanied by herbicide application, eliminated mature forms of all of the plants that were recorded in the fields, although some plants and seeds probably remained along the field edges.

Forested land classifications that were used for Carson Road Woods are:

- Deciduous Forest (designated as DFx)
- Deciduous Wooded Wetlands (designated as DWWx)
- Brushland/Shrubland (designated as BSx)

Most of the features on the map of Figure 3 represent unmodified DEP data, but some modifications and additions were made. For example, there is one area that appeared to be a planting of Christmas trees that was allowed to mature, which could perhaps be classified as a coniferous forest or a nursery, but it is small and unique, so we created our own classification of “Xmas Trees” (designated as Xmas). Hedgerows, as mentioned above, were not included, so we created that coverage from the digital imagery. We also simply labeled the retention basin in the northeast corner of the property. The area labeled AW5 was not distinguished from DF4 on the DEP map, but field observations clearly showed that it was a wetland, so we added that coverage. Three areas of brushland/shrubland, where succession of cropland has resulted in considerable woody vegetation, exist on the property but were not so designated based on the 1995/1997 aerial photographic images. One of those, BS1, was designated on the maps we used for habitat designation in time to be included in the data. Two other such areas, BS2 and BS3, were not differentiated from CP3 and CP4, respectively, while the data was being collected, so species found in these areas are included in the listings for CP3 and CP4.

The DEP data for streams did not include the most of minor, intermittent streams on the Carson Road Woods property, so we created the streams coverage through a combination of surveys employing a small handheld Global Positioning System (GPS) receiver and careful examination of the aerial photo image. The streams running through the property flow in an easterly direction and connect to Stony Brook to the east of the property. We also mapped the trails along the field edges and through the wooded areas using a combination of GPS and the photo imagery.

Participants

WCAS members who participated in collecting data were Herb Lord, Lou Beck, Pat Sziber, Hannah Suthers, Eileen Katz, Rick Dutko, Frank Bader, Tom Cosmas, Glenn Freeman, Susan Mitchell, Elena Williams, Barbara Wethe, Pei-Pei Cosmas, and Michael Kaplan.

The participants made forty trips to the property, including some trips made prior to our formal involvement in the inventory project. Some of the trips were made by groups, and others by individuals who surveyed on their own and then submitted their data. More than 280 person-hours were recorded on the site.

Dates of the trips include 6/15/01, 11/16/01, 12/16/01, 1/6/02, 1/21/02, 1/25/02, 1/26/02, 1/27/02, 2/17/02, 2/24/02, 3/8/02, 3/9/02, 3/16/02, 3/21/02, 3/24/02, 4/7/02, 4/24/02, 4/27/02, 5/3/02, 5/22/02, 5/24/02, 6/3/02, 6/9/02, 6/10/02, 6/21/02, 7/6/02, 8/1/02, 8/24/02, 8/25/02, 9/4/02, 9/14/02, 9/24/02, 10/2/02, 10/8/02, 10/15/02, 11/7/02, 11/14/02, 11/18/02, 11/23/02, 12/15/02.

Survey Results

The survey results are summarized in the attached tables. The tables all basically document the results in a what, where, when format. Because the “where” designation includes the habitat type in its specification, the results document what habitats were observed to be used by each species. Although there was no formal attempt to document how common the species were, the results give an indication of both how frequently each species was seen and how widespread the observation were. For the commonest species, such as blue jays, the frequency of observations may be understated, as observers just didn’t bother to record them every time they were seen, but they still indicate that blue jays were seen more or less everywhere on the property and almost every time the site was visited. Other species, such as the great crested flycatcher and eastern kingbird, were seen only in a few habitats on a few occasions in late spring.

Different members of the survey team used different field guides, and therefore in some cases reported species under different common names, and sometimes different scientific names. For vertebrate animals, both common names and scientific names are mostly standardized and fairly stable. For other groups common names are not standardized, and the taxonomy may not be stable or standardized. For vertebrate animals, some invertebrates (butterflies, freshwater mussels) and plants the New Jersey Natural Heritage Program (NJNHP) maintains lists of all species found in the state. Efforts were made to bring common and scientific names into conformity with that list, and to use that list to associate species names with family, order, and class where possible. However, in cases where, for example, a plant common and scientific name were provided as listed in a field guide, but neither the common or scientific name appeared in the NJNHP list, the field guide names were simply used as given. This was also done for groups not covered by the NJNHP list.

Tables 1 and 2 cover birds in the typical format. The bird species are grouped first by order, then by family, and both scientific and common names are given. As described above, for each species all locations (using the abbreviations of Figure 3) and all dates where and when that species was observed are listed. Eighty-six species of birds were reported. We did not try to determine which species were nesting on the property.

Results for amphibians, reptiles and mammals are summarized in Table 3 in the same format as Table 1. Only five species of amphibians and three species of reptiles were observed. There is always a chance that some species were missed, but for amphibians and reptiles the survey methods were probably adequate to find all or nearly all of the species present on the property during the survey period. Eight species of mammals were identified, and evidence of moles (tunnels) and of coyotes (scat) was also observed, although the animals were not sighted. Since most mammals are nocturnal and we did not conduct night surveys or use traps, it is very likely that we missed mammal species (e.g. bats, additional species of rodents, raccoons, etc.) that inhabit the property.

Results for butterflies (thirty two species) plus one moth species are summarized in Table 4, and for dragonflies (ten species) plus and one damselfly species in Table 5, which also includes some miscellaneous insects and spiders. All of these identifications were through binoculars or, in a few cases, from photographs; we do not net specimens. The butterfly list is probably fairly complete for the larger and more conspicuous species, but some additional hard-to-identify species might also use the property. There are certainly many species of moths using the property, but we did not try to identify them. Several fleeting observations of dragonflies that were probably unidentified additional species were made.

In addition to conducting surveys for butterflies, members of Washington Crossing Audubon Society planted a butterfly garden in the northeastern corner of the field designated cp2. Frank Bader spearheaded the project, planned the garden, got approvals from the township manager, and purchased the plants. Frank, along with Glenn Freeman, Susan Mitchell and Herb Lord, planted eight butterfly bushes on the site during the summer, and he and several other members kept the bushes watered during the summer drought. Many skippers and some other species were frequent visitors to the garden even in its infancy, and we expect the bushes will attract many butterflies in the coming years as they grow. Regular maintenance of the garden will be necessary.

Results for plants are summarized in Tables 6-10. The plant data are organized first by conventional groupings as

- trees (Table 6; 36 identified to species level),
- shrubs (Table 7; 18 identified to species level),
- vines and ferns (Table 8; 4 and 5 to species level, respectively),
- grasses and rushes (Table 9; 29 to species level),
- and other herbaceous plants (Table 10; 92 to species level).

There is a degree of arbitrariness in these groupings, but within each group, the listings follow scientific organization by class, order, family, genus and species. Plants that could be identified to the family level but not to the species level are also included in the tables.

Alien Species

The leading threats to biodiversity, in order of importance, are considered by many biologists to be

- 1) habitat destruction and degradation,
- 2) competition with or predation by alien species,
- 3) pollution,
- 4) overexploitation, and
- 5) disease.

(See, for example, *Precious Heritage*, Chapter 8.) Residents of central New Jersey hardly need to be reminded of habitat loss, and we won't try to evaluate the other threats in this report, but the results of the Carson Road Woods bio-inventory provide an example of the prevalence of alien species, particularly alien plant species, in this area.

Among animals, relatively few examples of alien species were found on the property. Only a few species of amphibians and reptiles were observed, and all were native species. Among mammals, house cats were the only clearly non-native species observed. The red fox is a questionable case (see Freiday). Red foxes were certainly imported from Europe to serve as "sport" targets for wealthy hunters, but apparently there were native red foxes as well, in northern and montane regions of north America, but probably not in New Jersey. Two common alien species of birds, the European starling and the house sparrow, were observed. The house finch is native to western and southwestern regions of the country, but was introduced to the northeastern U.S.

We only surveyed for two groups of invertebrates, butterflies and dragonflies, although a few other species were noted in passing. Among butterflies, the cabbage white was the only alien species observed, and it was one of the most commonly seen species. No alien dragonfly species were observed. We did note the two common species of praying mantis, both of which are aliens. (We didn't survey for or note the alien gypsy moth or Japanese beetle, which are of course among the most destructive of the alien species, and which were almost certainly there.)

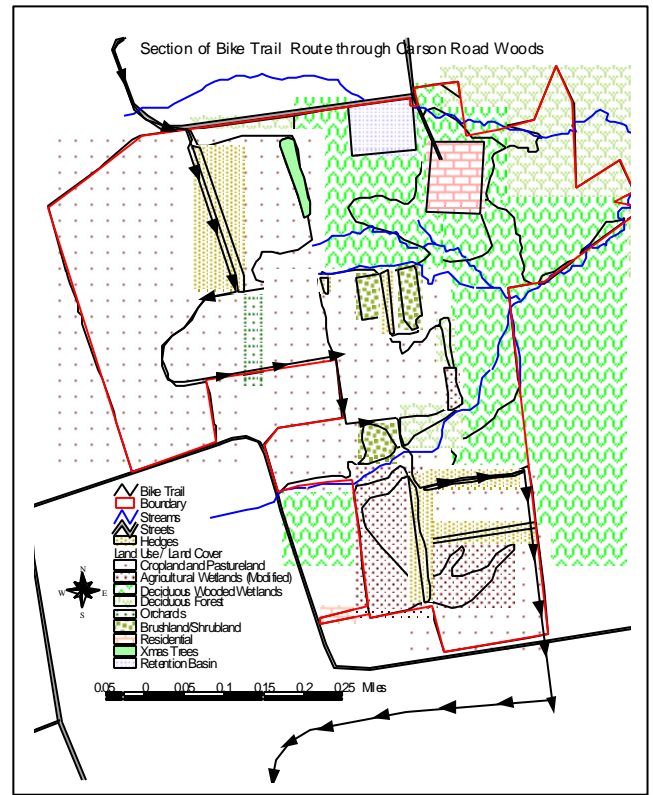
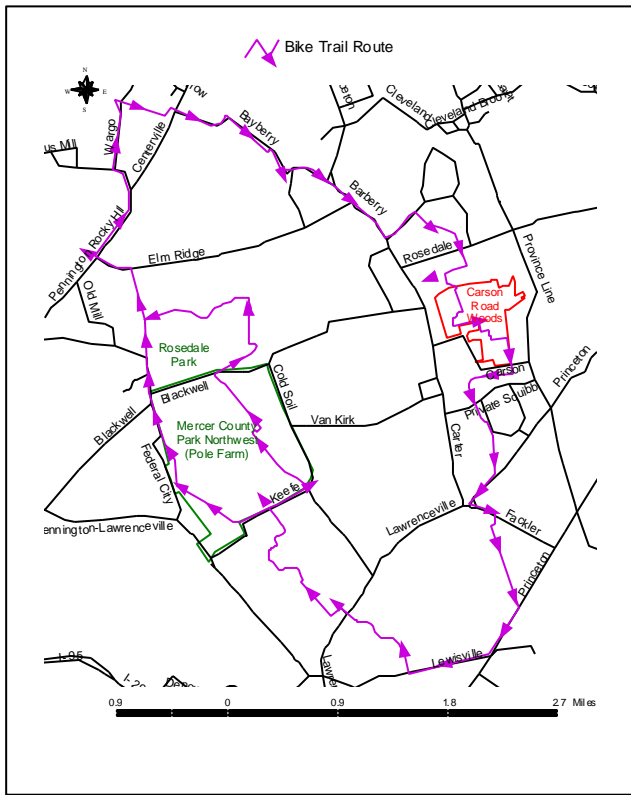
Among plants, alien species were much more prevalent. Many of the most common species of plants observed on the property are alien species. This is not surprising, as it is estimated that as many as one fourth of all plant species currently found in New Jersey are aliens. (See, for example, Robichaud Collins & Anderson, p. 63.) We have included a field in the plant data tables indicating which are alien species, at least for the most invasive examples.

Bike Trail

A portion of a planned twenty mile loop bike trail through Hopewell and Lawrence Townships (see the map below-left) is to pass through the Carson Road Woods property. The plan, as explained by Pam Mount at a Friends of Carson Road Woods meeting on January 15th, 2003, called for the section of the trail through the Carson Road Woods property to be ten feet wide and paved with asphalt.

WCAS, along with Friends of Carson Road Woods, has been involved in discussions and a walk on the property to study the planned route and the options for construction of the trail. The currently planned alignment of the trail, which was modified after the discussions and walk, is mapped below right. This alignment avoids wetlands as much as possible, and WCAS supports it. The need for pavement, and the proposed ten foot trail width, remain matters of concern in our group. Two very active cyclists in WCAS have expressed the opinion that the best trails they have

ridden in the area are eight feet wide, and the heavily used multi-use trails at Mercer County Park in West Windsor are also eight feet wide, so the proposed ten foot width seems excessive. We also have reservations about the need for paving the trail through relatively natural areas, but recognize that there are maintenance and ease-of-use issues that favor paving. WCAS urges the trail planners to seek to minimize the negative impacts of the bike trail on the property.



Recommendations

In this section we outline some ideas for management of the Carson Road Woods property to promote wildlife diversity and species richness by providing habitat diversity. The land use map with coded area designations of Figure 3 is used for reference.

It is our understanding that the agricultural land designated CP1 will remain in agriculture to fulfill the agricultural requirements.

The agricultural field CP2 could be allowed to succeed into a wildflower and native grass meadow. Mowing a section on a three year rotation, after grasses and wildflowers have set seed in the fall, will control shrubs. Around the border of this field, and other fields, a transition band of shrubs about thirty feet wide should be maintained between the grassy area and adjacent woodlands. The shrubby margin provides very important habitat for a variety of birds. The butterfly garden in the northeast corner should be maintained as a magnet for butterflies. The row of evergreens along the eastern edge is a plus, as it provides shelter for migrating and wintering birds. The AW1 wetland in the southern portion of the field can be mowed to keep in the meadow stage. The culvert running into DWW1 needs to be repaired.

The orchard is currently very attractive to birds and other wildlife due to the selection of fruit and the goldenrod meadow surrounding the trees. Bluebirds, tree swallows and house wrens may possibly use bird boxes placed there. Both Baltimore oriole and orchard oriole were observed in the orchard, and an oriole nest was observed near it. As

the peaches die out they could be replaced by native fruiting trees such as the American crabapple and wild cherry, which provide nectar and insects for migratory birds in the lovely spring bloom, and small fruits for winter and summer birds. Goldenrods and grasses feed the juncos and various sparrows that stay through the winter. The adjacent copse of trees (private property) is heavily used in all seasons.

CP3, much of which, as noted earlier, has succeeded into brush and shrubs on both sides of the hedgerow, is inhabited by the mockingbird, catbird, and yellow warbler, among thirteen species of shrubland birds. The plowed left side could be allowed to succeed to shrubland to make the area big enough to encourage the blue-winged warbler and willow flycatcher. Saplings would need to be cut to maintain the shrubland stage, and areas of multiflora rose would have to be cut on a rotational basis to open up the dense tangle to bird use. Shrublands are critically needed, as shrubland birds are declining because of habitat loss.

The AW2 wetland with cattails and the AW5 wetland with cattails, sedges, and rushes, can be kept by cutting intruding saplings and multiflora roses. They are probable feeding grounds for the woodcock, and spawning grounds for frogs and salamanders.

CP4, including the extension south of the private property, could be seeded into a mix of grass hay (not alfalfa or clover) and native warm weather grasses such as big and little bluestem and Indian grass. The combined areas may be large enough to attract bobolinks and meadowlarks. Song sparrows and field sparrows will certainly move in. Bobolinks require grasslands of at least 5-10 acres, and the territory size of one pair is 1-6 acres. Meadowlarks require grasslands of 15 to 20 acres and the territory size of one pair is 6 to 8 acres. See the Massachusetts Audubon Society pamphlets on *Conserving Grassland Birds* for information on species requirements, what to plant and how to manage it.

CP5, CP6, CP7 and their wetlands AW3 and AW4 are bordered by housing on the west side and the BMS campus on the south side. Four estates are slated to go in the woods on the east side, east of DF5 deciduous forest, and north to the DF3 deciduous forest. These new residential properties will degrade the territories now used by the scarlet tanager, wood thrush, pileated woodpecker and twenty-four other species of woodland birds. To compensate in the long run, the above-designated areas could well be allowed to succeed into forest. To speed the process, hardwood seedlings (oak, hickory) could be planted and protected from deer with wire cages until they grow above the deer browse level. Red maple, white ash and red cedar will appear without help. As these areas go through succession, a potentially large diversity of birds will appear during the shrubland and shrubs-with-trees stages.

The deciduous woods, DWW1, DWW2, DWW3, DF2, DF3, and DF5 are over-browsed by deer. There are few hardwood seedlings and saplings to replace the big trees, and the seasonal wildflowers are scarce. The deer overpopulation needs to be reduced and controlled before the forest diversity is reduced to red maple, which they don't like.

The native vines on the trees, grape and Virginia creeper, should not be cut. They are prime wildlife feeders. So is the vine poison ivy. Vines that need cutting are the Asiatic bittersweet and Japanese honeysuckle. They provide fruit, but they also strangle their host trees.

Homeowners adjacent to the conservation property need to understand that they should not allow their cats to roam freely onto the property. Cats devastate birds and other wildlife. Cats at night can take the mother bird as well as the nestlings.

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Carson Road Woods Data Summary

Birds, Class Aves

| Order | Family | Scientific Name | Common Name | Locations | Dates |
|-----------------------------------------------------|-------------------------------------|---------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Anseriformes: Waterfowl | Anatidae: Swans, Geese and Ducks | <i>Branta canadensis</i> | Canada goose | cp1, cp2, cp4, cp7, df5-cp6 hedge, dww1, dww3, rete | 11/16, 1/6, 1/21, 1/27, 2/17, 3/21, 10/8, 10/15, 11/7, 11/14, 11/23, 12/15 |
| | | <i>Anas platyrhynchos</i> | mallard | retention basin | 3/16, 3/21 |
| Ciconiiformes: Vultures | Cathartidae: New World Vultures | <i>Coragyps atratus</i> | black vulture | cp4 | 1/27, 10/15, 11/14 |
| | | <i>Cathartes aura</i> | turkey vulture | cp1, cp2, cp3, cp4, cp7, df1, df4, dww3, orc | 6/15, 11/16, 1/6, 1/21, 1/26, 1/27, 2/17, 2/24, 3/16, 4/7, 5/24, 6/10, 9/14, 10/2, 10/15, 11/17, 11/14, 11/23, 12/15 |
| Falconiformes Kites, Eagles, Hawks, Falcons | Accipitridae: Eagles and Hawks | <i>Pandion haliaetus</i> | osprey | over cp2, cp4 | 8/24 |
| | | <i>Haliaeetus leucocephalus</i> | bald eagle | over cp2 | 3/21 |
| | | <i>Circus cyaneus</i> | northern harrier | orc | 3/16 |
| | | <i>Accipiter striatus</i> | sharp-shinned hawk | cp1, cp2, cp4, dww3, orc | 1/21, 1/27, 9/14, 10/15, 12/15 |
| | | <i>Accipiter cooperii</i> | Cooper's hawk | aw3, cp5 | 3/16 |
| | | <i>Buteo jamaicensis</i> | red-tailed hawk | aw4, aw5, cp1, cp2, cp3, cp4, cp4 edge, cp7, df1, df2, df5, dww1, dww3, dww4, orc | 6/15, 11/16, 12/16, 1/6, 1/25, 1/26, 2/17, 2/24, 3/8, 3/16, 3/21, 4/24, 5/24, 6/9, 6/10, 9/4, 9/14, 9/24, 10/2, 10/15, 11/7, 11/14, 11/18, 11/23, 12/15 |
| Galliformes: Fowl | Phasianidae: Turkeys | <i>Meleagris gallopavo</i> | wild turkey | aw1, cp1, df5, dww3 | 5/22, 5/24, 10/8 |
| Charadriiformes: Gulls and Small Wading Birds | Charadriidae: Plovers | <i>Charadrius vociferus</i> | killdeer | cp4 | 10/2 |
| | Scolopacidae: Sandpipers | <i>Scolopax minor</i> | American woodcock | dww3, orc | 6/15, 3/9 |
| | Laridae: Gulls and Terns | <i>Larus delawarensis</i> | ring-billed gull | cp2 | 1/21 |
| Columbiformes: Pigeons, Doves | Columbidae: Pigeons, Doves | <i>Zenaidura macroura</i> | mourning dove | aw2, aw3, cp1, cp1-cp2 hedge, cp2, cp3, cp3-cp4 hedge, cp4, cp5, cp5-cp6 hedge, cp5-cp7 hedge, cp6, df1, df2, df5, dww1, dww3, orc, xmas | 6/15, 11/16, 12/16, 1/6, 1/27, 2/17, 2/24, 3/8, 3/16, 4/7, 4/24, 5/3, 6/10, 8/24, 9/14, 9/24, 10/2, 10/8, 10/15, 11/14, 11/23 |
| Strigiformes: Owls | Strigidae: Typical Owls | <i>Otus asio</i> | eastern screech owl | dww1 | Xmas count |
| | | <i>Bubo virginianus</i> | great horned owl | cp6, dww1 | Xmas count, 6/9 |
| Apodiformes: Swifts, Hummingbirds | Apodidae: Swifts | <i>Chaetura pelagica</i> | chimney swift | cp4, cp5 | 5/24, 6/9, 9/14 |
| Piciformes: Woodpeckers | Picidae: Woodpeckers | <i>Melanerpes carolinus</i> | red-bellied woodpecker | aw3, aw3-aw4 hedge, bs1, cp1, cp1-cp2 hedge, cp3-cp4 hedge, cp4, cp4 edge, cp5, cp6, df1, df2, df5, dww1, dww3 | 6/15, 11/16, 1/6, 1/21, 1/26, 2/17, 2/24, 3/8, 3/16, 3/21, 3/24, 4/7, 4/24, 5/3, 5/24, 8/24, 9/14, 10/2, 10/8, 10/15, 11/7, 11/14, 12/15 |
| | | <i>Sphyrapicus varius</i> | yellow-bellied sapsucker | df1, df1 edge | 2/24, 6/9, 11/14 |
| | | <i>Picoides pubescens</i> | downy woodpecker | aw3, aw3-aw4 hedge, cp1-cp2 hedge, cp2, df1, dww1, dww3, xmas edge | 1/6, 1/21, 1/25, 1/27, 2/17, 3/8, 9/14, 10/8, 11/14 |
| | | <i>Picoides villosus</i> | hairy woodpecker | aw2, cp1-cp2 hedge, cp4 hedge, df1, dww1, dww3 | 1/21, 1/25, 1/26, 3/16, 8/24, 9/14, 9/24, 10/2 |
| | | <i>Colaptes auratus</i> | northern flicker | aw3, aw3 edge, aw5, cp1, cp1-cp2 hedge, cp2, cp3, cp3-cp4 hedge, cp4, cp5, cp5- cp6 hedge, df1, df2, df4, df5, dww1, dww3, dww3 edge, orc | 6/15, 11/16, 1/6, 1/21, 1/26, 1/27, 2/17, 2/24, 3/16, 3/21, 4/7, 4/24, 5/3, 5/22, 5/24, 6/9, 8/24, 9/14, 10/2, 10/8, 10/15, 11/7, 11/23, 12/15 |
| | | <i>Dryocopus pileatus</i> | pileated woodpecker | df1, dww1, dww3 | 12/16, 4/27 |

Carson Road Woods Data Summary

Perching Birds, Class Aves, Order Passeriformes

| Family | Scientific Name | Common Name | Locations | Dates |
|----------------------------|---------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Tyrannidae: Flycatchers | <i>Contopus virens</i> | eastern wood-pewee | cp1-cp2 hedge, cp4 edge, df1, df2, dww1 | 6/15, 5/22, 6/9, 6/10, 8/24, 9/14, 10/2 |
| | <i>Sayornis phoebe</i> | eastern phoebe | aw3 edge | 4/7 |
| | <i>Myiarchus crinitus</i> | great crested flycatcher | df1, dww3 | 5/3, 5/24 |
| | <i>Tyrannus tyrannus</i> | eastern kingbird | aw2, aw4, cp2, cp4, cp7, orc | 5/24, 6/9, 6/10 |
| Hirundinidae: Swallows | <i>Tachycineta bicolor</i> | tree swallow | aw2, cp1, cp6 | 4/27, 5/24, 6/10 |
| | <i>Hirundo rustica</i> | barn swallow | bs1, cp2, cp6, orc | 5/24, 6/9, 8/25 |
| Corvidae: Jays, Crows | <i>Cyanocitta cristata</i> | blue jay | aw2, aw3, aw3-aw4 hedge, bs1, cp1, cp1-cp2 hedge, cp2, cp3, cp3-cp4 hedge, cp4, cp4 hedge, cp5-cp6 hedge, cp5-cp7 hedge, cp6-cp7 hedge, df1, df2, df4, df5, dww1, dww3, orc, xmas | 6/15, 11/16, 1/6, 1/21, 1/26, 1/27, 2/17, 2/24, 3/8, 3/16, 3/21, 3/24, 4/7, 4/24, 6/10, 8/24, 9/14, 9/24, 10/2, 10/8, 10/15, 11/14, 12/15 |
| | <i>Corvus brachyrhynchos</i> | American crow | cp1, cp1-cp2 hedge, cp2, cp3, cp4, cp5, cp5-cp6 hedge, cp6, df1, df2, df4, dww1, dww3, orc | 1/6, 1/21, 1/25, 1/26, 1/27, 2/17, 3/16, 3/21, 4/7, 5/24, 6/10, 8/24, 9/14, 9/24, 10/2, 10/8, 10/15, 11/7, 11/14, 12/15 |
| | <i>Corvus ossifragus</i> | fish crow | df5 | 9/14 |
| Paridae: Titmice | <i>Poecile carolinensis</i> | Carolina chickadee | brudge, cp1, cp1-cp2 hedge, cp3-cp4 hedge, cp4, cp6, df1, df2, df4, df5, dww1, dww3, orc | 11/16, 1/6, 1/21, 1/25, 1/26, 1/27, 2/17, 3/16, 3/21, 4/7, 4/24, 5/3, 8/24, 8/25, 10/2, 10/8, 10/15, 11/7, 11/14, 11/23, 12/15 |
| | <i>Baeolophus bicolor</i> | tufted titmouse | aw3, bs1, cp1-cp2 hedge, cp2, cp3, cp4, cp6, df1, df2, df4, df5, dww1, dww3, xmas | 1/6, 1/21, 1/26, 1/27, 2/17, 2/24, 3/8, 3/16, 4/7, 4/24, 4/27, 5/3, 5/22, 8/24, 9/14, 9/24, 10/2, 10/8 |
| Sittidae: Nuthatches | <i>Sitta carolinensis</i> | white-breasted nuthatch | cp4 edge, df1, df2, dww1, dww3, dww4 | 1/21, 1/25, 1/27, 2/17, 2/24, 3/16, 5/3, 9/4, 10/2, 10/8, 10/15, 11/14 |
| Certhiidae: Creepers | <i>Certhia americana</i> | brown creeper | df1 | 1/27 |
| Troglodytidae: Wrens | <i>Thryothorus ludovicianus</i> | Carolina wren | aw2, aw3-aw4 hedge, cp1, cp1-cp2 hedge, cp3, cp3-cp4 hedge, cp4, cp4 edge, cp6, df1, dww1, dww3, orc, Xmas trees | 1/6, 1/21, 1/27, 2/17, 4/7, 5/3, 5/24, 6/9, 8/24, 8/25, 9/14, 9/24, 10/2, 10/8, 10/15, 11/14, 12/15 |
| | <i>Troglodytes aedon</i> | house wren | aw2, cp1, cp1-cp2 hedge, cp4 edge, dww1 | 5/3 |
| | <i>Troglodytes troglodytes</i> | winter wren | df1 | 10/15 |
| Regulidae: Kinglets | <i>Regulus calendula</i> | ruby-crowned kinglet | aw2, bs1, cp4, cp4 edge, df4, dww1, dww2, orc | 5/3, 10/8, 10/15, 11/7, 11/14 |
| Sylviidae: Gnatcatchers | <i>Polioptila caerulea</i> | blue-gray gnatcatcher | cp1-cp2 hedge | 9/14 |
| Turdidae: Thrushes | <i>Sialia sialis</i> | eastern bluebird | aw1, aw2, aw3, aw3-aw4 hedge, aw4, cp1, cp1-cp2 hedge, cp2, cp3, cp4, cp4 edge, cp6, cp7, df1, df1 hedge, dww1, dww2, dww3, orc | 11/16, 12/16, 1/6, 1/21, 1/25, 1/26, 1/27, 2/17, 2/24, 3/16, 4/7, 4/24, 4/27, 5/3, 5/22, 5/24, 6/9, 6/10, 9/14, 10/15, 11/7, 11/14, 11/23, 12/15 |
| | <i>Catharus guttatus</i> | hermit thrush | df5, dww3 | 2/24 |
| | <i>Hylocichla mustelina</i> | wood thrush | aw3, cp4 edge, df1, df2, df5, dww1 | 6/15, 5/3, 5/22, 5/24, 6/10 |

Carson Road Woods Data Summary

Perching Birds, Class Aves, Order Passeriformes

| Family | Scientific Name | Common Name | Locations | Dates |
|-----------------------------|-------------------------------|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Turdidae: Thrushes | <i>Turdus migratorius</i> | American robin | aw2, aw3, cp1, cp1-cp2 hedge, cp2, cp3, cp3-cp4 hedge, cp4, cp4 edge, cp5-cp6 hedge, cp6, df1, df2, df4, df5, dww1, dww3, hedge cp1-cp2, orc, rete, xmas | 6/15, 1/6, 1/21, 1/25, 1/26, 1/27, 2/17, 2/24, 3/8, 3/16, 3/21, 3/24, 4/7, 4/24, 5/3, 5/24, 6/10, 8/24, 9/14, 9/24, 10/2, 10/8, 10/15, 11/7, 11/14, 12/15 |
| Mimidae: Mimic Thrushes | <i>Dumetella carolinensis</i> | gray catbird | aw1, aw3, aw5, bs1, cp1, cp1-cp2 hedge, cp2, cp3, cp3-cp4 hedge, cp4, cp4 edge, cp6, df1, df4, df5, df5 hedges, dww1, dww3, orc, xmas | 6/15, 4/7, 5/3, 5/22, 5/24, 6/10, 8/24, 8/25, 9/14, 9/24, 10/2, 10/8 |
| | <i>Mimus polyglottos</i> | northern mockingbird | aw1, aw2, aw3, aw3-aw4 hedge, aw3 edge, aw5, bridge, bs1, cp1, cp1-cp2 hedge, cp2, cp2 edge, cp3, cp4, cp4 edge, cp5-cp6 hedge, cp6, cp5-cp7 hedge, cp6-cp7 hedge, df1, df2, df4, df5-cp6 hedge, dww3, orc | 11/16, 1/6, 1/21, 1/26, 1/27, 2/17, 2/24, 3/8, 3/16, 3/21, 3/24, 4/7, 4/24, 5/22, 5/24, 6/9, 6/10, 9/14, 9/24, 10/2, 10/15, 11/7, 11/14, 11/18, 12/15 |
| | <i>Toxostoma rufum</i> | brown thrasher | aw3, cp1, cp1-cp2 hedge, cp2, cp3, cp4, cp6, df1, df5, df5-cp6 hedge, dww3 | 4/27, 5/3, 6/9, 6/10, 8/24, 9/24 |
| Bombycillidae: Waxwings | <i>Bombycilla cedrorum</i> | cedar waxwing | cp2, cp2 edge, cp4, df1, df1 edge, df5, dww2, orc | 1/21, 2/17, 3/16, 6/9, 6/10, 11/7, 11/14 |
| Sturnidae: Starlings | <i>Sturnus vulgaris</i> | European starling | cp1-cp2 hedge, cp3, cp4, cp5-cp6 hedge, df1, df1 edge, dww3, dww3 hedge, retention basin, xmas | 1/21, 2/17, 3/16, 3/21, 4/7, 4/24, 9/14, 11/14, 12/15 |
| Vireonidae: Vireos | <i>Vireo griseus</i> | white-eyed vireo | df1, dww3, xmas | 5/22 |
| | <i>Vireo olivaceus</i> | red-eyed vireo | cp4 hedge | 5/3 |
| Parulidae: Wood Warblers | <i>Vermivora pinus</i> | blue-winged warbler | cp3, cp4 edge, cp4 hedge, df1 | 5/3, 5/24, 6/10 |
| | <i>Vermivora ruficapilla</i> | Nashville warbler | cp4 hedge | 5/3 |
| | <i>Dendroica petechia</i> | yellow warbler | aw2, aw5, bs1, cp3, cp3-cp4 hedge, cp4 edge, cp4 hedge, df1, df4, df5, dww3 | 2/24, 5/3, 5/22, 5/24, 6/9, 6/10 |
| | <i>Dendroica magnolia</i> | magnolia warbler | dww3 | 9/14 |
| | <i>Dendroica coronata</i> | yellow-rumped warbler | aw2, cp4, cp4 hedge, df1, dww1, dww2, dww3, orc | 11/16, 1/26, 2/17, 3/16, 5/3, 10/8, 10/15, 11/7, 11/18 |
| | <i>Dendroica discolor</i> | prairie warbler | aw3, aw5 | 5/3, 9/14 |
| | <i>Dendroica palmarum</i> | palm warbler | aw2, cp4 hedge, orc | 5/3, 10/8, 10/15, 11/7 |
| | <i>Dendroica striata</i> | blackpoll warbler | cp4 edge | 5/24 |
| | <i>Mniotilta varia</i> | black-and-white warbler | cp4 hedge, dww1 | 5/3 |
| | <i>Seiurus aurocapillus</i> | ovenbird | df1, df2 | 6/15, 5/3 |
| | <i>Geothlypis trichas</i> | common yellowthroat | aw1, aw3, aw5, bs1, cp1, cp1-cp2 hedge, cp2, cp3-cp4 hedge, cp4, cp4 edge, cp4 hedge, df1, df4, df5-cp6 hedge, dww1, dww3, orc, xmas | 6/15, 4/27, 5/3, 5/22, 5/24, 6/9, 6/10, 8/24, 9/14, 9/24, 10/8 |
| <i>Wilsonia pusilla</i> | Wilson's warbler | cp4 edge | 5/24 | |
| Thraupidae: Tanagers | <i>Piranga olivacea</i> | scarlet tanager | cp1-cp2 hedge, dww3 | 5/3, 9/14 |

Carson Road Woods Data Summary

Perching Birds, Class Aves, Order Passeriformes

| Family | Scientific Name | Common Name | Locations | Dates |
|------------------------------------------|----------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cardinalidae: Cardinals, Grosbeaks | <i>Cardinalis cardinalis</i> | northern cardinal | aw2, aw3, aw5, bs1, cp1, cp1-cp2 hedge, cp3, cp3-cp4 hedge, cp4, cp4 edge, cp4 hedge, cp5-cp6 hedge, cp6, df1, df2, df4, df5, dww1, dww2, dww3, orc, xmas | 11/16, 1/6, 1/21, 1/25, 1/26, 1/27, 2/17, 2/24, 3/16, 3/21, 3/24, 4/7, 4/24, 5/3, 5/22, 5/24, 6/10, 8/24, 9/14, 9/24, 10/2, 11/7, 11/14, 11/23, 12/15 |
| | <i>Pheucticus ludovicianus</i> | rose-breasted grosbeak | aw1, cp2, cp3, cp4, df5, dww1, dww3 | 6/15, 6/9, 6/10 |
| | <i>Passerina cyanea</i> | indigo bunting | aw5, cp1-cp2 hedge, orc | 6/15, 5/24, 6/9, 6/10 |
| Emberizidae: Sparrows and Allies | <i>Pipilo erythrophthalmus</i> | eastern towhee | aw2, bs1, cp1-cp2 hedge, cp3, cp3-cp4 hedge, cp4, cp4 edge, df1, df5, dww1, dww3 | 6/15, 12/16, 1/6, 1/26, 1/27, 2/17, 3/16, 3/21, 3/24, 4/7, 4/24, 4/27, 5/3, 5/22, 5/24, 6/10, 9/14, 9/24, 10/2, 10/8, 10/15 |
| | <i>Spizella arborea</i> | American tree sparrow | cp1-cp2 hedge, cp4, df4, dww3, orc | 12/16, 1/21, 1/26, 2/24, 12/15 |
| | <i>Spizella pusilla</i> | field sparrow | aw1, aw5, cp1, cp1-cp2 hedge, cp2, cp3-cp4 hedge, cp4, cp4 hedge, cp6, df1, df4, df5, orc, xmas | 6/15, 2/24, 3/16, 3/21, 4/7, 5/3, 5/22, 5/24, 6/9, 6/10, 9/14, 9/24, 10/2, 10/8, 10/15 |
| | <i>Passerculus sandwichensis</i> | savannah sparrow | orc | 9/14 |
| | <i>Melospiza melodia</i> | song sparrow | aw1, aw3, aw3-aw4 hedge, aw5, bs1, cp1-cp2 hedge, cp2, cp3, cp4, cp4 hedge, cp5, cp5-cp6 hedge, cp6, df1, df4, df5, df5-cp6 hedge, dww3, orc, xmas | 1/6, 1/26, 1/27, 2/17, 2/24, 3/16, 3/21, 3/24, 4/7, 4/24, 4/27, 5/3, 5/22, 5/24, 6/9, 6/10, 8/24, 9/14, 9/24, 10/2, 10/8, 10/15, 11/14, 12/15 |
| | <i>Melospiza georgiana</i> | swamp sparrow | bs1 | 10/15 |
| | <i>Zonotrichia albicollis</i> | white-throated sparrow | aw2, aw3, bs1, bs2, brudge, cp1-cp2 hedge, cp3, cp3-cp4 hedge, cp4, cp4 edge, df1, df2, df4, df5, df5-cp6 hedge, dww1, dww1 edge, dww3, orc | 1/6, 1/21, 1/25, 1/26, 1/27, 2/17, 2/24, 3/8, 3/16, 3/24, 4/7, 5/3, 10/8, 10/15, 11/14, 11/18, 12/15 |
| | <i>Junco hyemalis</i> | dark-eyed junco | aw1, aw2, aw3-aw4 hedge, cp1-cp2 hedge, cp2, cp3, cp4, cp4 edge, df1, df5, dww1, dww3, orc, xmas | 11/16, 1/6, 1/21, 1/25, 1/26, 1/27, 2/17, 2/24, 3/8, 4/7, 10/15, 11/7, 11/14, 11/18, 11/23, 12/15 |
| Icteridae: Blackbirds | <i>Agelaius phoeniceus</i> | red-winged blackbird | cp2, cp3, cp4 hedge | 5/3, 6/10 |
| | <i>Quiscalus quiscula</i> | common grackle | aw3, cp1, cp2, cp3-cp4 hedge | 1/27, 3/8, 6/10 |
| | <i>Molothrus ater</i> | brown-headed cowbird | aw2, aw3, cp1, cp1-cp2 hedge, cp3, cp3-cp4 hedge, cp4, cp4 edge, cp5, cp6, dww1, xmas | 3/16, 4/7, 4/24, 4/27, 5/3, 5/24, 6/9, 6/10 |
| | <i>Icterus spurius</i> | orchard oriole | cp1-cp2 hedge, orc | 5/24, 6/9, 6/10 |
| | <i>Icterus galbula</i> | Baltimore oriole | bs1, cp1, cp1-cp2 hedge, cp2, cp3, cp3-cp4 hedge, cp4 edge, cp4 hedge, df1, df4, dww1, dww3, orc | 1/21, 4/7, 5/3, 5/22, 5/24, 6/9, 6/10 |
| Fringillidae: Finches | <i>Carpodacus purpureus</i> | purple finch | df1, dww3 | 1/21, 2/24 |
| | <i>Carpodacus mexicanus</i> | house finch | cp3, cp4, cp4 edge, df1, df4 hedge, df5 hedge, dww2, dww3, orc | 1/26, 2/17, 2/24, 3/24, 9/14, 9/24, 10/8, 10/15, 11/7, 11/14, 12/15 |
| | <i>Carduelis tristis</i> | American goldfinch | aw2, aw3, aw5, cp1, cp1-cp2 hedge, cp2, cp3, cp3-cp4 hedge, cp4, cp4 hedge, df1, df4, df5, df5-cp6 hedge, dww2, dww3, orc | 1/6, 1/26, 1/27, 2/17, 4/27, 5/3, 5/22, 5/24, 6/9, 6/10, 8/24, 11/7, 11/14 |
| Passeridae: Weaver Finches | <i>Passer domesticus</i> | house sparrow | df1 | 5/3 |

Carson Road Woods Data Summary

Amphibians, Class Amphibia

| Order | Family | Scientific Name | Common Name | Locations | Dates |
|------------------------------|--------------------------------------------|------------------------------|----------------------------------|-------------------|------------------------------------------------|
| Anura: Frogs and Toads | Hylidae: Tree Frogs | <i>Pseudacris crucifer</i> | northern spring peeper | Across road | 3/9 |
| | Ranidae: True Frogs | <i>Rana clamitans</i> | green frog | dww1 | 6/15 |
| | | <i>Rana palustris</i> | pickerel frog | aw5,cp4,dww1,dww3 | 5/3, 5/22, 5/24, 6/9 |
| Caudata: Salamanders | Plethodontidae: Lungless Salamanders | <i>Eurycea b. bislineata</i> | northern two-lined salamander | df3,dww1,dww3 | 3/21, 4/27, 5/22, 6/15, 9/4, 9/14, 11/16 |
| | | <i>Plethodon cinereus</i> | redback salamander | df2,df5,dww1,dww3 | 3/21, 4/24, 4/27, 5/22, 6/15 |

Reptiles, Class Reptilia

| Order | Family | Scientific Name | Common Name | Locations | Dates |
|------------------------------------|------------------------------------|-----------------------------------|----------------------|--------------------------------------|-------------------------------------|
| Squamata: Lizards and Snakes | Colubridae: Colubrid Snakes | <i>Lampropeltis t. triangulum</i> | eastern milk snake | aw1, cp2, cp6, df5, df5-cp6 hedge | 4/24, 4/27, 5/22, 5/24, 6/9, 9/4 |
| | | <i>Thamnophis s. sirtalis</i> | eastern garter snake | bs1,df4,df5,df5-cp6 hedge | 4/27,5/3,5/22,5/24, 8/25 |
| Testudines: Turtles | Emydidae: Subaquatic Turtles | <i>Terrapene carolina</i> | eastern box turtle | aw1, aw5 | 5/22, 9/4 |

Mammals, Class Mammalia

| Order | Family | Scientific Name | Common Name | Locations | Dates |
|-----------------------------------------------|---------------------------------|-------------------------------|--------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Artiodactyla: Even- toed Hoofed Mammals | Cervidae: Deer | <i>Odocoileus virginianus</i> | white-tailed deer | aw1, aw5, cp1, cp2, cp1-cp2 hedge, cp4, cp6, df1, df2, df5, dww1, dww3 | 1/21,1/25, 1/27, 2/17, 4/24, 5/24, 6/9, 6/10, 6/15, 8/24 9/14, 11/7, 11/23 |
| Carnivora: Carnivores | Canidae: Dogs, Wolves, Foxes | <i>Canis latrans</i> | coyote (scat) | cp1, cp2 | 1/6, 2/24 |
| | | <i>Vulpes vulpes</i> | red fox | df5, dww3 | 9/4 |
| | Felidae: Cats | <i>Felis catus</i> | house cat | cp4 | 1/6, 9/14 |
| Didelphimorphia: Marsupials | Didelphidae | <i>Didelphis virginiana</i> | Virginia opossum | df2 | 5/22 |
| Insectivora: Insect- Eaters | Soricidae: Shrews | <i>Blarina brevicauda</i> | northern short-tailed shrew | cp4, df2 | 3/16, 5/3 |
| | Talpidae: Moles | <i>Family Talpidae</i> | mole | cp1, cp2, orc | 1/6, 3/16 |
| Lagomorpha: Pikas, Hares and Rabbits | Leporidae: Hares and Rabbits | <i>Sylvilagus floridanus</i> | eastern cottontail | aw1, aw3-aw4 hedge, aw5, cp1, cp2, cp3, cp4, cp5-cp6 hedge, cp7, df5, dww1, dww3 | 1/6, 1/21, 1/27, 2/24, 3/21, 4/7, 4/27, 5/22, 5/24, 6/10, 8/24 |
| Rodentia: Rodents | Muridae: Rats & Mice | <i>Peromyscus leucopus</i> | white-footed mouse | df5 | 8/25 |
| | Sciuridae: Squirrels | <i>Sciurus carolinensis</i> | gray squirrel | df1, df2, df4, df5, dww1, dww3, cp4 edge | 1/6, 1/25, 1/27, 2/24, 3/8, 3/16, 3/21, 4/7, 4/24, 9/24, 10/2, 10/8 10/15, 11/7, 11/14, 11/16 |

Carson Road Woods Data Summary
Butterflies and Moths, Class Insecta, Order Lepidoptera

| Family | Scientific Name | Common Name | Locations | Dates |
|-------------------------------------------------------------------------------|----------------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Papilionidae: Swallowtails | <i>Papilio polyxenes</i> | black swallowtail | aw2, cp1, orchard | 5/24, 6/3, 9/14, 9/24 |
| | <i>Papilio glaucus</i> | eastern tiger swallowtail | cp2, cp6, dww3, orchard | 5/24, 6/3, 8/25 |
| | <i>Papilio troilus</i> | spicebush swallowtail | cp1, cp3, cp4, orchard, df5-cp6 trail | 5/3, 6/9, 8/25 |
| Pieridae: Whites and Sulphurs | <i>Pieris rapae</i> | cabbage white | aw1, aw3, aw4, aw5, bs1, cp1, cp1-cp2 hedge, cp2, cp3, cp4, cp5, cp6, df1, df4, df5, df5-cp6 trail, dww3, orchard, Xmas trees, butterfly garden | 6/15, 4/24, 5/3, 5/22, 5/24, 6/3, 6/9, 7/6, 8/25, 9/4, 9/14, 9/24 |
| | <i>Colias philodice</i> | clouded sulphur | aw5, cp1, cp2, orchard | 4/27, 5/24, 6/3, 6/9, 9/14 |
| | <i>Colias eurytheme</i> | orange sulphur | aw1, bs1, cp1, cp2, cp4, cp6, orchard, retention basin | 6/15, 4/24, 5/22, 5/24, 6/9, 8/25 |
| Lycaenidae: Harvesters, Coppers, Blues, Hairstreaks | <i>Celastrina ladon</i> | blue azure | df3, dww3 | 6/15 |
| | <i>Celastrina neglecta</i> | summer azure | cp4 | 6/9 |
| | <i>Everes comyntas</i> | eastern tailed blue | aw3, aw5, cp1, cp3, cp4, df1 (butterfly garden), dww3, orchard | 4/24, 4/27, 5/24, 7/6, 9/4, 9/14 |
| | <i>Celastrina argiolus</i> | spring azure | cp4 | 6/3 |
| Nymphalidae: Snout, Brush- footed Butterflies and their Allies | <i>Speyeria cybele</i> | great spangled fritillary | aw1, aw3, aw5, cp1, cp2, cp4, cp4-dww1 edge, cp5 | 6/15, 6/9, 6/21, 8/25 |
| | <i>Phyciodes tharos</i> | pearl crescent | aw1, aw2, aw3, aw5, bridge, bs1, cp1, cp2, cp4, cp5, df1 (butterfly garden), df5, df5-cp6 trail, orchard, Xmas trees, dww3 | 4/24, 4/27, 5/22, 5/24, 6/21, 8/1, 8/24, 8/25, 9/4, 9/14 |
| | <i>Polygonia interrogationis</i> | question mark | df4, dww3 | 6/15, 5/24 |
| | <i>Polygonia comma</i> | eastern comma | df4 | 6/15 |
| | <i>Nymphalis antiopa</i> | mourning cloak | dww1, dww3 | 3/16, 3/21 |
| | <i>Vanessa virginiensis</i> | American painted lady | cp1, dww1 | 5/22, 6/9 |
| | <i>Vanessa cardui</i> | painted lady | cp1 | 6/3 |
| | <i>Vanessa atalanta</i> | red admiral | retention basin | 6/15 |
| | <i>Junonia coenia</i> | buckeye | df1 (butterfly garden) | 7/6 |
| | <i>Limenitis arthemis</i> | red-spotted purple | Xmas trees | 9/24 |
| | <i>Megisto cymela</i> | little wood satyr | aw1, aw5, cp1-cp2 hedge, cp2, cp3, cp4, df1, dww3, retention basin | 6/15, 6/3, 6/9 |
| | <i>Cercyonis pegala</i> | common wood nymph | aw1, bs1, cp2 path, cp4 | 6/9, 8/24, 8/25 |
| | <i>Danaus plexippus</i> | monarch | cp4 | 9/14 |
| | Hesperiidae: Skippers | <i>Anatrytone logan</i> | Delaware skipper | aw1, cp2 |
| <i>Epargyreus clarus</i> | | silver-spotted skipper | dww3, orchard | 6/21, 8/25 |
| <i>Erynnis juvenalis</i> | | Juvenal's dusky wing | cp3, df5, dww3 | 4/24 |
| <i>Nastra lherminier</i> | | swarthy skipper | cp4 | 6/3 |
| <i>Ancyloxypha numitor</i> | | least skipper | aw1, aw5, cp2, cp4, cp4- dww1 edge | 6/15, 6/3, 6/9 |
| <i>Polites coras</i> | | Peck's skipper | aw5, cp3, df1 (butterfly garden), orchard | 6/15, 5/22, 6/3, 8/1, 8/25 |
| <i>Pompeius verna</i> | | little glassywing | cp2 | 6/21 |
| <i>Atalopedes campestris</i> | | sachem | aw2, cp4, df1 (butterfly garden) | 6/3, 8/25, 9/24 |
| <i>Euphyes vestris</i> | | dun skipper | cp2, aw1 | 6/15 |
| Saturniidae: | <i>Callosamia promethea</i> | spicebush silkmoth | | 5/24 |

Carson Road Woods Data Summary

Dragonflies and Damselflies, Class Insecta, Order Odonata

| Family | Scientific Name | Common Name | Locations | Dates |
|-------------------------|-------------------------------|---------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------|
| Aeshnidae: Darners | <i>Anax junius</i> | common green darner | aw1, aw3, aw5, bs1, cp1, cp2, cp3, cp4, cp5, cp6, df4, df5, df5- cp6 trail, dww3, orchard | 6/15, 5/24, 6/9, 8/25, 9/4, 9/14 |
| Gomphidae: Clubtails | <i>Dromogomphus spinosus</i> | black-shouldered spinyleg | aw5 | 6/15 |
| Libellulidae: | <i>Leucorrhinia intacta</i> | dot-tailed whiteface | cp4, nw corner | 8/25 |
| Skimmers | <i>Libellula luctuosa</i> | widow skimmer | aw5, cp4 | 6/15, 6/21 |
| | <i>Libellula pulchella</i> | twelve-spotted skimmer | aw1, aw5, df1, retention basin | 6/15, 6/3, 6/9 |
| | <i>Libellula semifasciata</i> | painted skimmer | aw5 | 5/22 |
| | <i>Libellula lydia</i> | common whitetail | aw1, aw3, aw5, cp2, cp3-cp4 hedge, df1, df5 | 6/15, 5/24, 6/3, 6/9, 8/25 |
| | <i>Perithemis tenera</i> | eastern amberwing | df1 (butterfly garden) | 8/1 |
| | <i>Sympetrum sp.</i> | meadowhawk | aw1 | 6/9 |
| Calopterygidae | <i>Tramea lacerata</i> | black saddlebags | cp4 | 5/22, 6/9 |
| | <i>Calopteryx maculata</i> | black-winged damselfly | cp4 | 6/9 |

Miscellaneous Insects and Spiders

| Class | Order | Family | Scientific Name | Common Name | Locations | Dates |
|------------------------|----------------------------|---------------|--------------------------------|----------------------------------|------------------------------|------------------|
| Insecta | Coleoptera | Cantharidae | <i>Family Cantharidae</i> | soldier beetle | orchard | 9/14 |
| | | Coccinellidae | <i>Family Coccinellidae</i> | ladybird beetle | edge of df5 | 6/9 |
| | Diptera | Mydadae | <i>Family Mydadae</i> | Mydas fly | cp4 | 6/9 |
| | Hemiptera | Gerridae | <i>Gerris remigis</i> | water strider | aw5, dww1, dww3, df5 | 1/27, 3/16, 5/24 |
| | | Lygaeidae | <i>Lygaeus kalmii</i> | small milkweed bug | cp4 | 6/9 |
| | Homoptera | Cercopidae | <i>Family Cercopidae</i> | spittlebug | cp2 | 6/9 |
| | Hymenoptera | Apidae | <i>Apis mellifera</i> | honey bee | | 9/24 |
| | | | <i>Bombus sp.</i> | bumblebee | aw3, df4, df5, cp1-cp2 hedge | 4/24, 6/9 |
| | | Vespidae | <i>Dolichovespula maculata</i> | bald-faced hornet | bs1, cp4, beside trail | 1/21, 2/24 |
| | | | <i>Family Vespidae</i> | hornet | bs1 | 2/24 |
| | Orthoptera | Tettiganiidae | <i>Family Tettiganiidae</i> | meadow grasshopper type | | 9/24 |
| | | Acrididae | <i>Family Acrididae</i> | grasshopper (green short-horned) | | 9/24 |
| | | | | locusts | Orc | 10/15 |
| | | Gryllidae | <i>Family Gryllidae</i> | cricket | df5, orc | 4/24, 10/15 |
| | | Mantidae | <i>Mantis religiosa</i> | European mantis | bs1, cp4 | 8/25, 9/4 |
| | <i>Tenodera aridifolia</i> | | Chinese mantis | bs1 | 8/25 | |
| <i>Family Mantidae</i> | praying mantis | | cp3, edge of df5, dww3 | 2/24, 3/16, 6/9 | | |
| Arachnida | Acarina | Ixodidae | <i>Dermacentor sp.</i> | eastern wood tick | dww1 | 2/17 |
| | Araneae | Araneidae | <i>Araneus sp.</i> | orb weaver spider | df5 | 9/4 |
| | | | <i>Araneus diadematus</i> | Garden Spider | orc | 10/15 |
| | | Linyphiidae | <i>Family Linyphiidae</i> | sheet web spiders | | 9/24 |
| | | Lycosidae | <i>Lycosa sp.</i> | wolf spider | df5 | 4/24 |
| | | Pisauridae | <i>Dolomedes sp.</i> | fishing spider | dww3 | 6/9 |
| | Opiliones | Phalangidae | <i>Leiobunum sp.</i> | eastern daddy-long-legs | dww3 | 6/9 |

Carson Road Woods Data Summary - Trees

| Class | Order | Family | Scientific Name | Common Name | Locations | Dates | Alien? |
|-------------------------------|--------------------------|----------------------------|--------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------|--------|
| Pinopsida | Pinales | Cupressaceae | <i>Juniperus virginiana var virginiana</i> | eastern red cedar | bs1, cp3, cp4, cp5-cp6 hedge, cp6 hedge, df4, df5, df5-cp6 hedge, dww1, dww3 | 11/16, 1/6, 1/21, 1/25, 1/27, 2/17, 2/24, 4/27, 6/9 | |
| | | Pinaceae | <i>Larix decidua</i> | European larch | orc | 11/14 | TRUE |
| | | | <i>Picea abies</i> | Norway spruce | Xmas trees | 1/27 | TRUE |
| | | | Family Pinaceae | blue spruce | dww1, Xmas trees | 1/6, 1/27 | |
| | | | <i>Pinus strobus</i> | eastern white pine | df5, dww1, dww3, Xmas trees | 11/16, 1/6, 1/27, 2/24 | |
| | | | <i>Pseudotsuga menziesii</i> | Douglas fir | Xmas trees | 1/27 | |
| Dicotyledoneae | Celastrales | Aquifoliaceae | <i>Ilex opaca var opaca</i> | American holly | df2, df5, dww3 | 11/16, 1/25, 1/27, 2/24, 5/3 | |
| | Cornales | Cornaceae | <i>Cornus florida</i> | flowering dogwood | df5, dww3 | 2/24, 4/24, 4/27, 5/3 | |
| | | | <i>Cornus sp.</i> | dogwood | aw3, cp1-cp2 hedge, df1, df5, dww3 | 1/27, 2/17, 2/24, 4/27 | |
| | | Nyssaceae | <i>Nyssa sylvatica var sylvatica</i> | black gum | dww3 | 6/9 | |
| | Fabales | Fabaceae | <i>Gleditsia triacanthos</i> | honey-locust | dww1 | 2/24 | TRUE |
| | Fagales | Betulaceae | <i>Betula populifolia</i> | gray birch | dww1 | 2/24 | |
| | | | <i>Betula sp.</i> | birch | Xmas trees | 1/21 | |
| | | | <i>Carpinus caroliniana var virginiana</i> | American hornbeam | dww1, dww3 | 11/16, 1/21, 1/25, 1/27 | |
| | | Fagaceae | <i>Quercus alba</i> | white oak | df2, dww1, dww3 | 11/16, 1/21, 1/27 | |
| | | | <i>Quercus bicolor</i> | swamp white oak | aw2, dww1 edge | 6/9 | |
| | | | <i>Quercus palustris</i> | pin oak | aw3, cp1-cp2 hedge, cp5-cp6 hedge, df4, df5, dww3, Xmas trees | 11/16, 1/21, 1/27, 2/17, 2/24 | |
| | | | <i>Quercus rubra var rubra</i> | red oak | aw3, df1, df2, dww1, dww3 | 11/16, 1/6, 1/21, 1/25, 1/27, | |
| | | | <i>Quercus velutina</i> | black oak | df2, dww1 | 1/21, 1/27 | |
| | <i>Fagus grandifolia</i> | American beech | df1, df2, dww1, dww1 edge, dww3 | 6/15, 1/6, 1/21, 1/25, 1/27, | | | |
| | Hamamelidales | Hamamelidaceae | <i>Liquidambar styraciflua</i> | sweet gum | aw3, bs1, cp3, cp4, df4, df5, dww3, dww3 edge, Xmas trees | 1/21, 1/27, 2/24, 4/27 | |
| | Juglandales | Juglandaceae | <i>Carya cordiformis</i> | bitter-nut hickory | dww1 | 2/17 | |
| | | | <i>Carya ovata</i> | shagbark hickory | df1, dww1, dww3 | 1/21, 1/27, 6/9 | |
| | | | <i>Juglans nigra</i> | black walnut | cp1-cp2 hedge, cp4, df1, dww1, dww3, orc | 2/17, 2/24, 3/16, 4/24, 9/14 | |
| | Laurales | Lauraceae | <i>Sassafras albidum</i> | sassafras | cp1-cp2 hedge, df1 | 1/21, 6/9 | |
| | Magnoliales | Magnoliaceae | <i>Liriodendron tulipifera</i> | tulip poplar | df1, df2, dww3 | 1/21, 1/25, 1/27, 8/25 | |
| | Rosales | Rosaceae | <i>Prunus avium</i> | sweet cherry | cp1-cp2 hedge | 1/21 | TRUE |
| | | | <i>Prunus serotina var serotina</i> | black cherry | aw3-aw4 hedge, df1, df5, dww3 | 1/25, 1/27, 2/24 | |
| | | | <i>Prunus sp.</i> | cherry | df5-cp6 hedge | 1/27 | |
| | | | <i>Pyrus sp.</i> | crabapple | bs1, cp3 brush, dww3 | 1/27, 4/27 | |
| | Salicales | Salicaceae | <i>Populus deltoides var deltoides</i> | eastern cottonwood | cp4 hedge | 5/3 | |
| | | | <i>Populus sp.</i> | aspens or cottonwood | cp4 | 9/14 | TRUE |
| | | | <i>Salix sp.</i> | willow | aw1, dww3 | 2/17, 4/27 | TRUE |
| | Sapindales | Aceraceae | <i>Acer negundo var negundo</i> | box elder | cp3-cp4 hedge | 6/9 | |
| | | | <i>Acer platanoides</i> | Norway maple | df1 | 1/21, 6/9 | TRUE |
| | | | <i>Acer rubrum</i> | red maple | cp1-cp2 hedge, df5, dww3 | 1/27, 2/17, 2/24 | |
| | | | <i>Acer saccharinum</i> | silver maple | dww3 | 2/24 | |
| | Scrophulariales | Oleaceae | <i>Fraxinus americana</i> | white ash | aw3, aw5, cp3-cp4 hedge, df5, dww3 | 1/27, 2/24, 6/9 | |
| <i>Fraxinus pennsylvanica</i> | | | green ash | dww3 | 6/9 | | |
| <i>Fraxinus sp.</i> | | | ash | aw3-aw4 hedge, cp1-cp2 hedge, cp5-cp6 hedge, df1, dww1, dww3 | 1/21, 1/27 | | |
| Scrophulariaceae | | <i>Paulownia tomentosa</i> | princess tree | df1 | 2/24 | TRUE | |
| Urticales | Ulmaceae | <i>Ulmus americana</i> | American elm | cp1-cp2 hedge, cp3-cp4 hedge, dww3 | 6/9, 8/24 | | |
| | | <i>Ulmus rubra</i> | slippery elm | df1, dww3 | 2/24, 5/3 | | |
| | | <i>Ulmus sp.</i> | elm | cp1-cp2 hedge, dww1, dww3 | 1/21, 6/9 | | |

Carson Road Woods Data Summary
Shrubs - Class Dicotyledoneae

| Order | Family | Scientific Name | Common Name | Locations | Dates | Alien? |
|-----------------|----------------|--------------------------------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------|
| Celastrales | Aquifoliaceae | <i>Ilex verticillata</i> var <i>verticillata</i> | winterberry | cp4, dww3 | 1/21 | |
| | | <i>Ilex</i> sp. | holly | df3, dww3 | 6/15 | |
| Ranunculales | Berberidaceae | <i>Berberis thunbergii</i> | Japanese barberry | | 10/8 | TRUE |
| | | <i>Berberis</i> sp. | barberry | df2, dww1, dww3 | 6/15, 1/21, 1/27, 2/24, 4/27 | |
| Dipsacales | Caprifoliaceae | <i>Lonicera japonica</i> | Japanese honeysuckle | aw5, cp4, df5, dww3 | 1/27, 2/24, 6/9 | TRUE |
| | | <i>Lonicera maackii</i> | amur honeysuckle | all edges, all hedges, cp1-cp2 hedge, cp4 hedge, df4, df5, Orc | 5/3, 6/9, 10/2, 10/8, 10/15 | TRUE |
| | | <i>Lonicera morrowii</i> | Morrow's bush honeysuckle | cp4 hedge, cp5-cp6 hedge | 5/3 | TRUE |
| | | <i>Lonicera tatarica</i> | twinsisters | df4, df5 edge | 6/9 | TRUE |
| | | Family <i>Caprifoliaceae</i> | honeysuckle | aw3, bs1, cp1-cp2 hedge, df1, df5-cp6 hedge, dww3 | 1/21, 1/27, 4/27, 5/3, 5/24 | |
| | | <i>Sambucus canadensis</i> var <i>canadensis</i> | common elderberry | cp4 hedge | 8/24 | |
| | | <i>Viburnum</i> sp. | viburnum | dww3 | 1/27 | |
| | | <i>Viburnum dentatum</i> | arrowwood | dww1, dww3 | 4/27 | |
| Proteales | Elaeagnaceae | <i>Viburnum prunifolium</i> | blackhaw | dww3 | 6/9 | |
| | | <i>Elaeagnus angustifolia</i> | russian olive | df5, dww3 | 2/24 | TRUE |
| Lamiales | Lauraceae | <i>Elaeagnus umbellata</i> var <i>parvifolia</i> | autumn olive | bs1, cp2, cp4 edge, cp6, df5, Xmas trees | 1/21, 2/24, 5/3 | TRUE |
| | | <i>Lindera benzoin</i> | spicebush | df3, dww3 | 6/15, 6/9 | |
| Myricales | Myricaceae | Family <i>Myricaceae</i> | bayberry | cp4 | 1/21 | |
| Scrophulariales | Oleaceae | <i>Ligustrum</i> sp. | oriental hedge; oriental privet | df1, df5 | 5/3, 6/9 | TRUE |
| | | <i>Ligustrum</i> sp. | Asiatic privet | cp3 | 6/9 | TRUE |
| | | <i>Ligustrum</i> sp. | privet | cp1-cp2 hedge, cp4, df1, df5-cp6 hedge, dww3 | 1/21, 1/27 | TRUE |
| Rosales | Rosaceae | <i>Aronia arbutifolia</i> | red chokeberry | dww3 | 6/9 | |
| | | <i>Rosa multiflora</i> | multiflora rose | aw3, aw3-aw4 hedge, aw5, bs1, cp1, cp2, cp3, cp4, cp4 hedge, cp5-cp6 hedge, cp6 hedge, df1 edge, df4, df5, df5-cp6 hedge, dww1, dww3, dww3 edge, orc | 1/21, 1/25, 1/27, 2/17, 2/24, 4/27, 10/2, 10/15 | TRUE |
| | | <i>Rosa virginiana</i> var <i>virginiana</i> | Virginia rose | cp3, corner df4, df5 | 6/10, 10/8 | |
| | | <i>Rubus orarius</i> | blackberry | df5, dww1, dww3 | 6/15, 1/21, 2/24 | |
| | | <i>Rubus</i> sp. | raspberry | df5, dww1, dww3, orchard | 6/15, 1/27, 2/17, 2/24 | |
| | | <i>Rubus phoenicolasius</i> | wineberry | df5, dww1 | 2/24 | TRUE |
| Celastrales | Celastraceae | <i>Euonymus</i> sp. | winged euonymus | df2, dww3 | 6/15, 1/21, 1/27, 2/24, 3/16, 10/2 | TRUE |
| Sapindales | Anacardiaceae | <i>Toxicodendron radicans</i> | poison ivy | aw3, df1, dww1, dww3 | 11/16, 1/6, 1/21, 1/27, 2/24, 10/8 | |
| | | <i>Rhus hirta</i> | staghorn sumac | cp1-cp2 hedge | 1/21, 2/17 | |

**Carson Road Data Summary
Vines and Ferns**

Vines

| Class | Order | Family | Scientific Name | Common Name | Locations | Dates | Alien? |
|------------------|--------------|---------------|------------------------------------|---------------------|----------------------------------------------------|------------------------------------|---------------|
| Dicotyledoneae | Rhamnales | Vitaceae | <i>Parthenocissus quinquefolia</i> | Virginia creeper | cp3/cp4, dww1, dww3, Xmas trees, Xmas Trees bypass | 6/15, 4/27, 6/10, 9/24, 10/2, 10/8 | |
| | | | <i>Vitis vulpina</i> | frost grape | df1, df5 | 1/21, 2/24 | |
| | | | <i>Vitis sp.</i> | grape | df1, df2, df5, dww1, dww3 | 11/16, 1/6, 1/21, 1/25, 1/27 | |
| | Celastrales | Celastraceae | <i>Celastrus orbiculata</i> | Asiatic bittersweet | cp1-cp2 hedge, cp2, df5, dww3 | 6/15, 9/24, 10/8 | TRUE |
| | | | <i>Celastrus sp.</i> | bittersweet | cp4, df1, df2, df5-cp6 hedge | 1/21, 1/27, 8/24 | |
| Monocotyledoneae | Liliales | Smilacaceae | <i>Smilax rotundifolia</i> | common greenbrier | df1 | 6/9 | |
| | | | <i>Smilax sp.</i> | greenbrier | dww3 | 6/15 | |
| | | | <i>Smilax sp.</i> | Smilax sp. | df1, df2, dww1 | 1/27, 5/3, 10/8 | |

Ferns

| Class | Order | Family | Scientific Name | Common Name | Locations | Dates | Alien? |
|--------------|--------------|------------------|------------------------------------------------------|--------------------|---------------------|-----------------------|---------------|
| Filicopsida | Filicales | Dryopteridaceae | <i>Athyrium filix-femina var angustum</i> | northern lady-fern | dww1 | 10/8 | |
| | | | <i>Onoclea sensibilis</i> | sensitive fern | aw5, df4, df5, dww3 | 6/15, 1/21, 2/24, 5/3 | |
| | | | <i>Polystichum acrostichoides var acrostichoides</i> | Christmas fern | dww3 | 6/15, 2/24 | |
| | | Polypodiaceae | <i>Dennstaedtia punctiloba</i> | hayscented fern | | | |
| | | | <i>Polypodium virginianum</i> | rock polypody | | | |
| | | Thelypteridaceae | <i>Thelypteris noveboracensis</i> | New York fern | df2, dww1 | 6/15, 10/8 | |
| | | | <i>Thelypteris palustris var pubescens</i> | Marsh fern | dww3 | 6/10 | |

Carson Road Woods Data Summary: Grasses and Rushes - Class Monocotyledoneae

| Order | Family | Scientific Name | Common Name | Locations | Dates | Alien? | |
|-------------------------------|----------------------|-------------------------------------------------------|--------------------------|------------------------------------|-------------------------|-------------------------|--|
| Cyperales | Cyperaceae | <i>Carex annectens</i> var <i>xanthocarpa</i> | yellow-fruit sedge | | early summer | | |
| | | <i>Carex annectens</i> var <i>annectens</i> | connecting sedge | | | | |
| | | <i>Carex baileyi</i> | Bailey's sedge | | | | |
| | | <i>Carex intumescens</i> | bladder sedge | | | | |
| | | <i>Carex lurida</i> | sallow sedge | | early summer | | |
| | | <i>Carex pensylvanica</i> | Pennsylvania sedge | dww3 | 2/24 | | |
| | | <i>Carex scoparia</i> var <i>scoparia</i> | pointed broom sedge | | early summer | | |
| | | <i>Carex squarrosa</i> | wide-spreading sedge | | | | |
| | | <i>Carex stipata</i> | an awl-fruit sedge | | early summer | | |
| | | <i>Carex stricta</i> | tussock sedge | | | | |
| | | <i>Carex vulpinoidea</i> var <i>vulpinoidea</i> | fox sedge | | early summer | | |
| | | <i>Scirpus atrovirens</i> | dark-green bulrush | | early summer | | |
| | | <i>Scirpus cyperinus</i> | woolgrass | aw5, df4, df5 | 1/21, 2/24 | | |
| | Poaceae | <i>Agrostis</i> sp. | bentgrass | df5 | 2/24 | | |
| | | <i>Agrostis scabra</i> | rough bentgrass | cp4 | 9/24 | | |
| | | <i>Andropogon virginicus</i> var <i>virginicus</i> | broom-sedge | cp2, cp4, df5 | 1/21, 2/24, 9/24 | | |
| | | <i>Andropogon</i> sp. | Andropogon sp. | cp2, cp4, orchard | 1/27, 2/17 | | |
| | | <i>Anthoxanthum odoratum</i> ssp <i>odoratum</i> | sweet vernal grass | | early summer | TRUE | |
| | | <i>Bromus commutatus</i> | meadow brome | | | | |
| | | <i>Bromus inermis</i> ssp <i>inermis</i> | smooth brome | | early summer | TRUE | |
| | | <i>Bromus japonicus</i> | Japanese brome | | early summer | TRUE | |
| | | <i>Cinna arundinacea</i> | sweet wood-reed | | | | |
| | | <i>Dactylis glomerata</i> ssp <i>glomerata</i> | orchard grass | cp2 | early summer, 2/24 | TRUE | |
| | | <i>Danthonia spicata</i> | poverty wild oat grass | | | | |
| | | <i>Elymus canadensis</i> | nodding wild rye | | | | |
| | | <i>Eragrostis spectabilis</i> | tumble grass | | | | |
| | | <i>Panicum villosissimum</i> var <i>villosissimum</i> | white-hair panic grass | | early summer | | |
| | | <i>Panicum</i> sp. | Panicum sp. | aw1, df5 | 2/24, 6/9 | | |
| | | <i>Festuca arundinacea</i> | tall fescue | | early summer | | |
| | | <i>Glyceria striata</i> | nerved manna grass | | early summer | | |
| | | <i>Lolium perenne</i> var <i>perenne</i> | perennial rye grass | | | | |
| | | <i>Microstegium vimineum</i> | Japanese stilt grass | aw5 | 2/24 | TRUE | |
| | | <i>Panicum virgatum</i> var <i>virgatum</i> | switch grass | cp2, df5 | 2/24 | | |
| | | <i>Phalaris arundinacea</i> | reed canary grass | aw1 | early summer, 2/24 | | |
| | | <i>Phleum pratense</i> | meadow timothy | | early summer | TRUE | |
| | | <i>Phragmites</i> sp. | phragmites | aw1 | 2/17 | | |
| | | <i>Poa pratensis</i> ssp <i>pratensis</i> | Kentucky blue grass | | early summer | TRUE | |
| | | <i>Poa saltuensis</i> | old-pasture spear grass | | early summer | | |
| | | <i>Secale cereale</i> | cultivated rye | | early summer | TRUE | |
| | | <i>Pennisetum glaucum</i> | yellow foxtail | cp1 | 9/24 | TRUE | |
| | | <i>Setaria</i> sp. | foxtail | aw3, cp1, cp2, orc | 1/21, 1/27, 9/24, 10/15 | | |
| | | <i>Sorghastrum nutans</i> | Indian grass | cp1, cp2, df5, orc | 1/21, 2/24, 9/24, 10/15 | | |
| <i>Thinopyrum intermedium</i> | | intermediate quack grass | aw5 | 6/9 | TRUE | | |
| <i>Agropyrum repens</i> | | quack grass | | early summer | | | |
| Juncales | | Juncaceae | <i>Juncus canadensis</i> | Canadian rush | | | |
| | | | <i>Juncus effusus</i> | soft rush | aw5, df4, dww3 | early summer, 1/21, 6/9 | |
| | <i>Juncus tenuis</i> | | poverty rush | cp4, woods | early summer, 2/24, 6/9 | | |
| | <i>Juncus</i> sp. | | rush | aw1, aw2, aw3, aw5, bs1, dww3 edge | 1/27, 2/17, 2/24 | | |

Carson Road Woods Data Summary
Herbaceous Plants

| Class | Order | Family | Scientific Name | Common Name | Locations | Dates | Alien? |
|----------------|-----------|------------|--------------------------------------------|------------------------|--------------------------------------------------------------------------------------|-----------------------------------------|--------|
| Dicotyledoneae | Apiales | Apiaceae | <i>Daucus carota</i> | wild carrot | bs1, cp1, cp2, cp4, df5, df5 path, dww1, orchard | 1/21, 1/27, 2/17, 2/24, 5/3, 8/24, 9/24 | TRUE |
| | Asterales | Asteraceae | <i>Achillea millefolium</i> | yarrow | df5 | 5/3 | TRUE |
| | | | <i>Ambrosia artemisiifolia</i> | ragweed | cp4, Orc, Xmas trees | 1/21, 10/15, 9/24 | |
| | | | <i>Arctium minus</i> | common burdock | df1 | 1/21, 1/27 | TRUE |
| | | | <i>Artemisia vulgaris</i> | mugwort | cp4 | 5/3, 8/24 | TRUE |
| | | | <i>Aster lateriflorus var lateriflorus</i> | calico aster | cp1 | 9/24 | |
| | | | <i>Aster novae-angliae</i> | New England aster | cp3, df4, df5 | 9/24, 10/8 | |
| | | | <i>Aster simplex</i> | panicled aster | df5 | 9/24 | |
| | | | <i>Family Asteraceae</i> | aster | cp2, cp5, Orc | 1/21, 3/16, 10/15 | |
| | | | <i>Bidens coronata</i> | tickseed sunflower | bridge, Orc | 9/24, 10/15 | |
| | | | <i>Cichorium intybus</i> | chicory | cp5, cp6, dww3 | 8/24, 9/14 | TRUE |
| | | | <i>Cirsium arvense</i> | Canadian thistle | bs1, cp3, cp4 | 5/3, 6/10, 9/14 | TRUE |
| | | | <i>Cirsium vulgare</i> | bull thistle | cp6 | 8/24 | TRUE |
| | | | <i>Family Asteraceae</i> | thistle | aw3, bs1, df5, Orc | 1/27, 2/24, 4/27, 10/15 | |
| | | | <i>Erigeron strigosus var strigosus</i> | daisy fleabane | bs1, cp3, cp4 | 6/10, 8/24 | |
| | | | <i>Erigeron sp.</i> | common fleabane | aw3, bs1 | 5/24 | |
| | | | <i>Eupatorium perfoliatum</i> | boneset | dww3 | 8/24, 9/14 | |
| | | | <i>Eupatorium spp.</i> | Eupatorium sp. | Orc | 10/15 | |
| | | | <i>Euthamia graminifolia</i> | grass-leaved goldenrod | cp1, aw5 | 9/24 | |
| | | | <i>Galinsoga sp.</i> | a quickweed | cp1 | 9/24 | TRUE |
| | | | <i>Gnaphalium obtusifolium</i> | sweet everlasting | cp1 | 9/24 | |
| | | | <i>Hieracium paniculatum</i> | panicled hawkweed | df5 | 6/10 | |
| | | | <i>Hieracium pratense</i> | a hawkweed | cp4 | 5/24 | |
| | | | <i>Leucanthemum vulgare</i> | ox-eye daisy | cp3, df5 | 6/10 | TRUE |
| | | | <i>Senecio aureus</i> | golden ragwort | bs1 | 5/3 | |
| | | | <i>Solidago canadensis var canadensis</i> | Canadian goldenrod | cp5 | 8/24 | |
| | | | <i>Solidago sp.</i> | goldenrod | aw3, aw3-aw4 hedge, aw5, bs1, cp2, cp3, cp4, cp5, df1, df5, df5-cp6 hedge, dww3, Orc | 1/27, 2/17, 2/24, 10/15 | |
| | | | <i>Solidago graminifolia</i> | lance-leaved goldenrod | bs1, cp4 | 8/24 | |
| | | | <i>Solidago juncea</i> | early goldenrod | cp1, aw5, df5 | 5/3, 9/24 | |

Carson Road Woods Data Summary
Herbaceous Plants

| Class | Order | Family | Scientific Name | Common Name | Locations | Dates | Alien? |
|---------------------|----------------|----------------------------|--------------------------------------------|------------------------------------|-----------------------------------|-----------------------------------------|--------|
| Dicotyledoneae | Asterales | Asteraceae | <i>Solidago rugosa</i> | rough-stemmed goldenrod | cp1, aw5 | 9/24 | |
| | | | <i>Taraxacum officinale ssp officinale</i> | common dandelion | aw2, cp3, df4 | 4/24, 9/24 | TRUE |
| | | | <i>Vernonia noveboracensis</i> | New York ironweed | aw3, aw5, bs1, df5 | 8/24, 9/24 | |
| | | | <i>Xanthium sp.</i> | cockleburr | df1 | 1/21 | |
| | | | <i>Eupatorium rugosum</i> | white snakeroot | dww1 | 10/2 | |
| | Geraniales | Balsaminaceae | <i>Impatiens sp.</i> | jewelweed | aw5, bridge, cp3/cp4, dww1, dww3 | 6/15, 4/27, 5/3, 6/10, 8/24, 9/14, 9/24 | |
| | Ranunculales | Berberidaceae | <i>Podophyllum peltatum</i> | mayapple | df2, dww1, dww3 | 6/15, 4/24 | |
| | Capparales | Brassicaceae | <i>Alliaria officinalis</i> | garlic mustard | df1, dww1, dww3 | 6/15, 4/27 | TRUE |
| | | | <i>Barbarea vulgaris</i> | yellow rocket | aw5, bs1, df5 | 4/27, 5/3 | TRUE |
| | | | <i>Cardamine pensylvanica</i> | quaker bittercress | dww3 | 4/27 | |
| | | | <i>Cardamine pratensis var pratensis</i> | cuckoo flower | dww3 | 4/27 | TRUE |
| | | | <i>Cardamine bulbosa</i> | bulbous bittercress | aw5, cp4, dww1, dww3 | 4/27, 5/3 | |
| | | | <i>Lepidium virginicum var virginicum</i> | wild pepperwort | df5 | 5/3 | |
| | | | Family Brassicaceae | cress | cp4 | 3/16 | |
| | Campanulales | Campanulaceae | <i>Lobelia inflata</i> | indian-tobacco | cp4, df5, dww3 | 2/24, 8/24 | |
| | | | <i>Lobelia sp.</i> | lobelia | df5 | 2/24 | |
| | Caryophyllales | Caryophyllaceae | <i>Cerastium fontanum ssp vulgare</i> | common mouse-ear chickweed | cp4, cp5 | 5/3 | TRUE |
| | Theales | Clusiaceae | <i>Hypericum perforatum</i> | St. Johnswort | dww1 | 6/15 | TRUE |
| | Fabales | Fabaceae | <i>Lespedeza violacea</i> | violet bush-clover | cp4 edge, df4, dww3 | 8/24 | |
| | | | <i>Lespedeza virginica</i> | slender bush-clover | cp4 | 8/24 | |
| | | | <i>Trifolium agrarium</i> | yellow hop clover | df5 | 6/10 | |
| | | | <i>Trifolium pratense</i> | red clover | cp4 | 8/24 | TRUE |
| | | | <i>Trifolium repens</i> | white clover | cp3 edge, Xmas trees | 6/9, 9/24 | TRUE |
| | Gentianales | Gentianaceae | <i>Centaurium umbellatum</i> | centaury | cp2 | 7/6 | |
| | | | <i>Geranium maculatum</i> | wild geranium | dww1 path, dww3 | 5/3 | |
| | | Apocynaceae | <i>Apocynum androsaemifolium</i> | spreading dogbane | cp3 | 6/10 | |
| | | | <i>Apocynum cannabinum var cannabinum</i> | indian-hemp | aw1, aw5, df4 | 1/21, 2/24 | |
| <i>Apocynum sp.</i> | | | dogbane | aw1, aw3, aw5, bs1, cp5, df5, dww1 | 1/27, 2/17, 2/24, 3/16, 5/3, 8/24 | | |
| Asclepiadaceae | | <i>Asclepias variegata</i> | white milkweed | cp2 | 8/24 | | |

Carson Road Woods Data Summary
Herbaceous Plants

| Class | Order | Family | Scientific Name | Common Name | Locations | Dates | Alien? |
|-------------------------|-----------------|----------------|----------------------------------------------|---------------------------|-----------------------------------------------------|----------------------------|--------|
| Dicotyledoneae | Gentianales | Asclepiadaceae | <i>Asclepias sp.</i> | milkweed | aw1, bs1, cp2, cp4 hedge, orchard | 1/21, 2/17, 4/27, 8/24 | |
| | Lamiales | Lamiaceae | <i>Hedeoma pulegioides</i> | American pennyroyal | df5 | 2/24 | |
| | | | <i>Nepeta cataria</i> | catnip | | 10/8 | TRUE |
| | | | <i>Prunella vulgaris</i> | self-heal | aw1, df5 | 1/21, 8/24 | |
| | | | <i>Pycnanthemum muticum</i> | mountain mint | df5 | 2/24 | |
| | | Verbenaceae | <i>Verbena hastata var hastata</i> | blue vervain | bs1 | 8/24 | |
| | | | <i>Verbena sp.</i> | vervain | bs1 | 8/24, 9/14 | |
| | Myrtales | Onagraceae | <i>Circaea lutetiana var canadensis</i> | enchanter's-nightshade | cp4, cp6 | 8/24 | |
| | | | <i>Epilobium coloratum</i> | purple-leaved willow-herb | aw5 | 9/24 | |
| | | | <i>Ludwigia alternifolia</i> | seedbox | aw5, bs1 | 2/24, 4/27 | |
| | | | <i>Ludwigia sp.</i> | ludwigia | aw5 | 2/24 | |
| | | | <i>Oenothera biennis</i> | common evening-primrose | aw3, cp5, cp6 | 8/24 | |
| | | | <i>Oenothera villosa</i> | evening primrose | df5 | 2/24 | |
| | | | <i>Oenothera sp.</i> | primrose | df5 | 2/24 | |
| | Scrophulariales | Orobanchaceae | <i>Epifagus virginiana</i> | beechdrops | df2 | 2/24 | |
| | Polygonales | Polygonaceae | <i>Polygonum hydropiper</i> | water-pepper | bridge(dww3), aw5 | 9/24 | TRUE |
| | | | <i>Polygonum persicaria</i> | lady's-thumb | bridge(dww3), aw5, Xmas trees bypass | 9/24, 10/2 | TRUE |
| | | | <i>Rumex acetosella</i> | sheep sorrel | cp6, cp7 | 5/3 | TRUE |
| | | | Family Polygonaceae? | dock | cp6, cp7, df1 edge | 1/21, 5/3 | |
| | | | <i>Rumex obtusifolius</i> | bitter dock | cp3 | 6/10 | TRUE |
| | | | <i>Tovara virginiana</i> | Virginia knotweed | cp1, df5, dww3 | 5/3, 8/24, 9/24 | |
| | Caryophyllales | Phytolaccaceae | <i>Phytolacca americana var americana</i> | pokeweed | aw1, cp1, cp3, df1 edge, orc | 1/21, 1/27, 9/24, 10/15 | |
| | | Portulacaceae | <i>Claytonia virginica var virginica</i> | spring beauty | aw3, df2, dww1, dww3 | 2/24, 3/16, 3/24, 4/24 | |
| | Plantaginales | Plantaginaceae | <i>Plantago major? / rugelii?</i> | plantain | cp2-Xmas tree path, df5 path, dww1 edge, dww3 | 1/21, 5/3, 6/9, 8/24 | |
| | Primulales | Primulaceae | <i>Anagallis arvensis var arvensis</i> | scarlet pimpernel | df5 | 6/10 | TRUE |
| | Ranunculales | Ranunculaceae | <i>Anemone quinquefolia var quinquefolia</i> | wind-flower | dww1, dww3 | 4/27 | |
| | | | <i>Ranunculus abortivus</i> | kidney-leaf buttercup | dww1, dww3 | 4/27 | |
| | | | <i>Ranunculus bulbosus</i> | goldencups | df5 path | 5/3 | TRUE |
| | Rosales | Rosaceae | <i>Agrimonia parviflora</i> | small-flowered agrimony | bs1 | 8/24 | |
| | | | <i>Agrimonia sp.</i> | agrimony | aw3, bs1 | 8/24 | |
| <i>Duchesnea indica</i> | | | indian-strawberry | dww3, orchard | 6/9, 9/14 | TRUE | |

Carson Road Woods Data Summary
Herbaceous Plants

| Class | Order | Family | Scientific Name | Common Name | Locations | Dates | Alien? |
|-----------------------|-----------------|---------------------------|-------------------------------------------------|---------------------------|--------------------------------------------|------------------------------|--------|
| Dicotyledoneae | Rosales | Rosaceae | <i>Fragaria sp.</i> | strawberry | df1 path, df5, df5 path | 4/27, 5/3, 5/22 | |
| | | | <i>Geum canadense var canadense</i> | white avens | df5, dww3 | 2/24, 5/3 | |
| | | | <i>Potentilla norvegica ssp monspeliensis</i> | rough cinquefoil | | | |
| | | | <i>Potentilla simplex ?</i> | common cinquefoil | bs1, df5 path | 5/3 | |
| | | Saxifragaceae | <i>Chrysosplenium americanum</i> | American golden-saxifrage | df2 | 1/27 | |
| | Rubiales | Rubiaceae | <i>Mitchella repens</i> | partridge-berry | df2, dww3 | 6/15, 2/24, 5/3 | |
| | Scrophulariales | Scrophulariaceae | <i>Gerardia purpurea</i> | purple gerardia | aw2, aw5, cp3 | 9/14, 9/24 | |
| | | | <i>Linaria vulgaris</i> | butter-and-eggs | aw1, cp4 | 6/9, 9/24 | TRUE |
| | | | <i>Penstemon digitalis</i> | foxglove beardtongue | cp3, df5 | 6/10 | TRUE |
| | | | <i>Penstemon sp.</i> | beardtongue | cp3 edge, df5, dww1 | 6/15, 2/24, 6/9 | |
| | | | <i>Verbascum thapsus</i> | common mullein | df5 | 2/24 | TRUE |
| | | | <i>Verbascum sp.</i> | mullein | df5 | 2/24 | |
| | | | <i>Veronica serpyllifolia var serpyllifolia</i> | thyme-leaf speedwell | cp2 | 5/3 | TRUE |
| | Solanales | Solanaceae | <i>Physalis sp.</i> | ground-cherry | aw3, cp2, cp5 | 1/27, 2/17 | |
| | | | <i>Solanum carolinense var carolinense</i> | horse nettle | cp2-Xmas tree path, cp4, df4 edge, orchard | 1/21, 5/3, 8/24, 9/14 | TRUE |
| | | Convolvulaceae | <i>Ipomoea purpurea</i> | common morning-glory | aw5, cp1, cp4 | 8/24, 9/14 | TRUE |
| | | | <i>Ipomoea hederacea</i> | ivy-leaf morning-glory | cp1, cp3, cp4 | 8/24, 9/14, 9/24 | TRUE |
| Urticales | Urticaceae | <i>Pilea pumila</i> | Canadian clearweed | df2 | 5/3 | | |
| Violales | Violaceae | <i>Viola papilionacea</i> | common blue violet | dww1, dww3 | 4/24, 4/27 | | |
| Monocotyle- doneae | Arales | Araceae | <i>Arisaema triphyllum ssp triphyllum</i> | jack-in-the-pulpit | df5, dww1, dww3, Xmas trees | 4/27, 5/3, 6/9 | |
| | | | <i>Symplocarpus foetidus</i> | skunk-cabbage | df2, dww1, dww3 | 6/15, 1/27, 3/21, 4/27, 6/10 | |
| | Liliales | Iridaceae | <i>Sisyrinchium montanum</i> | Strict blue-eyed grass | cp6, df5 | 6/10 | |
| | | Liliaceae | <i>Ornithogalum umbellatum</i> | star-of-bethlehem | cp2 | 5/3 | TRUE |
| | | | <i>Smilacina racemosa</i> | false Solomon's seal | | 10/8 | |
| | | | <i>Allium sp.</i> | onion grass | df5, dww1, dww3 | 1/27, 2/24 | |
| | Typhales | Typhaceae | <i>Typha latifolia</i> | broad-leaf cattail | aw2, aw5 | 6/9, 6/10, 8/24, 8/25 | |
| <i>Typha sp.</i> | | | cattail | aw2, aw5, df4 | 6/15, 1/21, 1/27, 2/24, 3/16 | | |
| Equisetopsida | Equisetales | Equisetaceae | <i>Equisetum sp.</i> | horsetail | aw5 | 4/27 | |